

REMARKS

This response amends the specification and drawings. The specification is amended on page 10, second and fourth paragraphs by adding reference numeral 12 to indicate the contact region and for purposes of clarity. The drawings are amended to include the legend "Prior Art" on Figure 1(a) and to add clarity to Figures 2 and 3. New claims 17-20 are added. No new matter has been added. Upon amendment, the application will have four independent claims (claims 1, 5, 9, and 13) and twenty total claims. No excess claim fees are required. This response is timely filed. No extension fees are required.

1. Drawings

On page 2 of the Office Action, the Examiner states "Figure 1(a) should be designated by a legend such as --Prior Art--...". Applicant submits a photocopy of Figure 1(a) marked with red ink showing a proposed correction. The proposed correction attends to this matter by adding the legend --Prior Art-- to Figure 1(a). Applicant respectfully requests the Examiner approve this correction to Figure 1(a).

On page 2 of the Office Action, the Examiner objects to the drawings under 37 CFR 1.83(a). The Examiner states "'a metal plug disposed within a contact region' in claims 1 and 5 and...'a metal plug disposed outside a contact region' in claims 9 and 13 must be shown or the features canceled from the claim(s)". Applicant submits a photocopy of Figures 2 and 3 marked with red ink showing the proposed corrections. The proposed corrections add clarity to the claimed features by adding the reference numeral 11 to refer to "Another field oxide region..." which is deposited over a "portion of the contact region" (page 10 of the current specification, second paragraph). Reference numeral 12 is added to refer to the "contact region". Furthermore, dashed lines are added to Figures 2 and 3 to indicate the contact region. Support for these proposed corrections to the drawings can be found, inter alia, on page 10, second and fourth paragraphs, and Figures 2 and 3. Finally, field oxide region 4 has been added to Figure 2 to the left of the metal contact plug 7. Support for this amendment to Figure 2 may be found, inter alia, on page 10, second paragraph in the specification and Figure 1. No new matter has been added. Applicant respectfully requests the Examiner approve the proposed corrections to Figures 2 and 3 as shown in the enclosed Letter to the Official Draftsperson.

2. 35 USC § 112

On pages 2-3 of the Office Action, the Examiner rejects claims 1-16 under 35 U.S.C. 112, second paragraph. The Examiner states in regard to claims 1, 5, 9, and 13 "it is not clear what it is applicant regards as 'a metal plug contact disposed within a contact region' and 'a metal plug contact disposed outside a contact region'. There is no such contact region disclosed anywhere in figures of this present application...". Furthermore, the Examiner states claims 2-4, 6-8, 10-12, and 14-16 are rejected due to their dependency on base claims 1, 5, 9, and 13.

Figure 2 and page 10, second paragraph of the specification are amended. Support for these amendments can be found, inter alia, on page 10, second paragraph of the current specification which discloses a field oxide region 4 having a metal plug contact to the right thereof and another field oxide region "deposited over a portion of the contact region 12". These amendments to Figure 2 and the specification are for clarity purposes. In addition, amendments to Figure 3 and page 10, fourth paragraph of the specification are made for clarity purposes as well. The Applicant submits that these amendments add no new matter to the application.

Applicant respectfully submits that the proposed corrections to the Figures as shown in the enclosed Letter to the Official Draftsperson clearly presents a metal plug contact 7 disposed within a contact region 12 in Figure 2 and a metal plug contact disposed outside a contact region 12 in Figure 3. The contact regions are now labeled with reference numeral 12 and dashed lines in Figures 2 and 3. Therefore, Applicant respectfully requests the Examiner withdraw the rejection under 35 U.S.C. 112, second paragraph to claims 1-16.

3. 35 USC § 102**3.1 Rejection of claims 1-16 as being anticipated by Scott et al.**

On pages 3-5 of the Office Action, the Examiner rejects claims 1-16 under 35 U.S.C. 102(e) "as being anticipated by Scott et al.". Despite the Examiner's detailed exposition, Applicant is of the view that claims 1-16 and new claims 17-20 are not anticipated by Scott et al.

Claim 1 recites "*A semiconducting device adapted to prevent and/or to thwart reverse engineering, comprising: (a) field oxide layer disposed on a semiconductor substrate; (b) a metal plug contact disposed within a contact region and above said field oxide layer; and (c) a metal connected to said metal plug contact.*" The contact plugs of the instant invention are disposed "above said field oxide layer" as claimed in claim 1. The contact plugs and metal for

the invention of Scott et al are disposed over silicide, not oxide. Scott et al discloses, "Contacts 26 and 28 are then formed after formation of the silicide..." (column 4, lines 22-26). Scott fails to disclose "*a metal plug contact disposed...above said field oxide layer*" as claimed in claim 1 of the instant invention. Therefore, claim 1 is not anticipated by Scott et al. Furthermore, claims dependent on claim 1, namely claims 2-4, and new claim 17 are also not anticipated by Scott et al due at least to their dependency on claim 1.

Moreover, new claim 17, dependent on claim 1, recites "The device of Claim 1, wherein said field oxide layer has an uppermost side, said metal plug contact being disposed on said uppermost side of said field oxide layer". Scott et al fails to disclose, hint or suggest "said metal plug contact being disposed on said uppermost side of said field oxide layer" as claimed by new claim 17 of the current invention. Therefore, new claim 17 is patentable over Scott et al.

Applicant respectfully submits that claims 5, 9, and 13 recite patentable subject matter "*a metal plug contact disposed...above said field oxide layer...*" similar to that discussed above and recited in claim 1 of the current invention. Therefore, claims 5, 9, and 13 are not anticipated by Scott et al. Moreover, new claims 18-20 recite patentable subject-matter similar to that recited and discussed above for new claim 17. Therefore, Applicant respectfully submits new claims 18-20 are patentable over Scott et al. Furthermore, claims dependent on claims 5, 9, and 13, namely claims 6-8, 10-12, 14-16, and new claims 18-20 are not anticipated by Scott et al through at least their dependencies on claims 5, 9, and 13 respectively.

3.2. Rejection of claims 1-3, 5-7, 9-11, and 13-15 as being anticipated by Sur, Jr.

On pages 6-7 of the Office Action, the Examiner rejects claims 1-3, 5-7, 9-11, and 13-15 under 35 U.S.C. 102(b) "as being anticipated by Sur, Jr. et al." Applicant is of the view that claims 1-3, 5-7, 9-11, 13-15, and new claims 17-20 are not anticipated by Sur, Jr. et al.

Claim 1 recites "*A semiconducting device adapted to prevent and/or to thwart reverse engineering, comprising: (a) field oxide layer disposed on a semiconductor substrate; (b) a metal plug contact disposed within a contact region and above said field oxide layer; and (c) a metal connected to said metal plug contact.*" Sur, Jr., et al. discloses an intermetal oxide having via holes which are filled with metal to form electrical contacts (column 8, lines 18-33). Sur, Jr., et al. fails to disclose "*a metal plug contact disposed...above said field oxide layer*" as claimed in claim 1 of the current invention. The intermetal oxide layer lies between the metal contacts,

hence the description of the oxide layer as intermetal in column 8, lines 18-33 of Sur, Jr., et al. Furthermore, Figure 13, to which the Examiner refers, clearly shows that the electrical contacts disclosed by Sur, Jr., et al. are not "*above the field oxide layer*" as claimed in claim 1 of the current invention. Therefore, claim 1 is not anticipated by Sur, Jr., et al. Furthermore, claims dependent on claim 1, namely claims 2-4, and new claim 17 are also not anticipated by Sur, Jr., et al due at least to their dependency on claim 1.

Moreover, new claim 17, dependent on claim 1, recites "The device of Claim 1, wherein said field oxide layer has an uppermost side, said metal plug contact being disposed on said uppermost side of said field oxide layer". Sur, Jr., et al fails to disclose, hint or suggest "said metal plug contact being disposed on said uppermost side of said field oxide layer" as claimed by new claim 17 of the current invention. Therefore, new claim 17 is patentable over Sur, Jr., et al.

Applicant respectfully submits that claims 5, 9, and 13 recite patentable subject matter "*a metal plug contact disposed...above said field oxide layer...*" similar to that discussed above and recited in claim 1 of the current invention. Therefore, claims 5, 9, and 13 are not anticipated by Sur, Jr., et al. Moreover, new claims 18-20 recite patentable subject-matter, "*said metal plug contact being disposed on said uppermost side of said field oxide layer*", similar to that recited and discussed above for new claim 17. Therefore, Applicant respectfully submits new claims 18-20 are patentable over Sur, Jr., et al. Furthermore, claims dependent on claims 5, 9, and 13, namely claims 6-8, 10-12, 14-16, and new claims 18-20 are not anticipated by Sur, Jr., et al through at least their dependencies on claims 5, 9, and 13 respectively.

4. Additional Prior Art

On page 7 of the Office Action, the Examiner cites an additional two references. Applicant respectfully submits that the claims of the current invention are patentable over this prior art. Should the Examiner disagree with this conclusion, Applicant respectfully requests the Examiner to specifically point out which are the prior art documents over which the present invention as claimed is not patentable.

For the reasons explained above, the Applicant respectfully requests favorable reconsideration of this Application.

The Commissioner is authorized to charge any additional fees, which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136 (a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

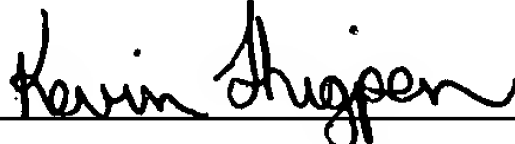
I hereby certify that this correspondence is being deposited with the United States Post Office with sufficient postage as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C., 20231, on,

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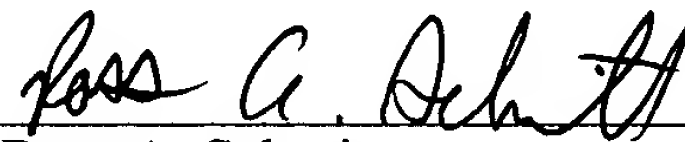
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(Date)

Enclosures: Appendix A

Letter to Official Draftsperson

Respectfully submitted,



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Appendix A:

Marked Versions of Replacement paragraphs showing changes made

FIG. 2 shows a contact plug 7 and the contact is meant to be to the right of field oxide 4.

Another [Field] field oxide region 11 [4] is deposited over a portion of the contact region 12, and the metal plug 7 which would have usually been placed to end on the contact region 12 ends up on the field oxide [4] region 11 instead.

L_{10} is the overlap area between the oxide region 11, the normal contact region 12 and the placing of the plug 7. The diameter of the plug 7 is preferably not larger than the size of the minimum feature. L_{10} can be of any size, specified by the fabrication vendor, and is preferably 10% larger than the size of the minimum feature. A preferred contact dimension is up to about three times of the via size.